

REMARKS

Claims 1-10, 12-23, and 31-36 are pending. Claims 1-10, 12-23 and 31-36 have been rejected under 35 USC 103(a), as discussed below.

Claim Rejection - 35 USC 103(a)

Claims 1-10, 12-23, and 30-36 are rejected under 35 USC 103(a) as being unpatentable over Hutkins et al. (US 5,186,962) in view of Franjone et al. and Gaier (US 5,645,877).

The present invention relates to a food product comprising a pasteurized hydrated, edible food item. The claims provide that the food product is at a temperature state of less than 10° C, and comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. The by-products in some embodiments are acids, which lower the pH of the food product. See, e.g., p. 17, line 28 – p. 18, line 12, claim 2. Because the microorganisms are encapsulated, the hydration of the culture is slowed and the microorganisms are better protected from inactivation by heat processing during packaging operations. See page 6, lines 3-20. In one embodiment, the encapsulation material dissolves prior to any temperature abuse of the product. See page 10, lines 9-11. In other embodiments, the encapsulation material forms a gel that keeps the microorganisms from dispersing until exposure to temperature above about 10° C, at which point the gel releases the microorganisms. See page 11, lines 17-22.

Hutkins et al do not disclose providing encapsulated microorganisms, nor dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C. Hutkins et al., in contrast, disclose a food product that contains bacteriocin-producing bacteria that produce the bacteriocin under all conditions, including at refrigeration temperatures. The bacteriocin is produced specifically without the production of acids, and without changes in pH. See column 12, lines 37-42, 50-55. The bacteria are expressly required to be active at temperatures of 1°-7° C. See column

4, lines 60-63. The skilled artisan would not have a reason to modify the Hutkins et al. bacteria to be dormant, because this modification would destroy one of the fundamental objectives of this reference.

Further, Hutkins et al. do not disclose providing the bacteria in encapsulated form. Similarly, the skilled artisan would not have a reason to modify the Hutkins et al. bacteria to be dormant, because encapsulating the bacteria would inhibit production of bacteriocin under certain conditions, which again would destroy one of the fundamental objectives of this reference to have active bacteria at temperatures of storage.

It is respectfully submitted that none of the pending claims are rendered obvious by the Hutkins et al. disclosure. In addition, neither Franjione et al. nor Gaier alone or in combination with Hutkins et al. bridge the gap between Hutkins et al. and the present claims.

Franjione et al. is cited for teaching the use of encapsulation in food products to shield an active ingredient from the surrounding environment. See page 1. The method of encapsulation that is taught is co-extrusion. The encapsulated, active ingredient may be released from encapsulation by mechanical rupture, dissolution or melting of the capsule wall or by diffusion through the wall. See page 1. However, Franjione et al. do not teach encapsulating dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Franjione et al. do not teach encapsulating microorganisms of any kind, let alone microorganisms that are dormant except at certain temperatures, and thus the reference does not render the claims of the present invention obvious either alone or in combination with Hutkins et al.

Gaier is cited for the teaching use of *Streptococcus thermophilus* as a lactic bacteria in preparation of fermented food products. See column 3, lines 38-44. The Gaier process is very different from the present use of microorganisms, because Gaier uses the microorganisms to produce the food product (See column 1, lines 28-33), and would have no reason to desire a dormant stage or to encapsulate the microorganisms. Nor does Gaier teach encapsulating dormant, hydrated nontoxic microorganisms that are

effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Thus, Gaier alone or in combination with Hutkins et al. and Franjione et al. does not render obvious the claims of the present invention.

It is, therefore, respectfully submitted that even in combination, the Hutkins et al., Franjione et al., and Gaier disclosures fall short of the present claims that teach a food product that is at a temperature state of less than 10° C, and that comprises encapsulated, dormant, hydrated nontoxic microorganisms that are effectively dormant up to temperatures of about 10° C., and wherein, if the food product reaches a temperature above 10° C., the nontoxic microorganisms release by-products into the food product that inhibit the growth of harmful microorganisms. Thus, Hutkins et al. in view of Franjione et al. and Gaier do not render claims 1-10, 12-23 and 30-36 unpatentable.

CONCLUSION

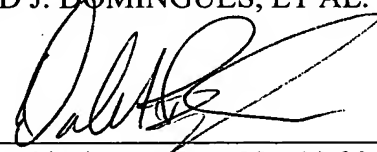
In view of the above arguments, it is respectfully submitted that the present application is now in condition for allowance. Early favorable consideration and passage of the above application to issue is earnestly solicited.

In the event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any issues in the application, the Examiner is invited to contact said attorney at (651)275-9811.

Respectfully submitted,

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